environmentalperspectives

65 Maygrove Road, West Hampstead REP Maygrove Road Developments
Sustainability Statement, November 2011

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65 Maygrove Road, West Hampstead NW6 2EH

Sustainability Statement

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EXECUTIVE SUMMARY

Environmental Perspectives LLP were commissioned by REP Maygrove Road Developments to prepare this Sustainability Statement for the proposed development at 65 Maygrove Road, within the administrative boundary of the London Borough of Camden.

The purpose of the Sustainability Statement is to provide an independent verification that the design of the proposed development is in accordance with the sustainability objectives of relevant planning policy at all levels and is an example of good practice in sustainable design. This Statement reports the performance of the proposed development using local, regional and national level guidance on sustainability from both government and industry.

The London Borough of Camden is committed to achieving sustainable development throughout the Borough whilst having regard to the future of London as a whole. As a result, the planning policies for this area emphasise the importance of ensuring social progress and equality of opportunity; protection of the build and natural environment; the prudent use of natural resources; and the maintenance of high and stable levels of economic growth and employment.

It is important, therefore, that the proposed development contributes to the Borough's sustainability aims, as well as ensuring that regional and national objectives for sustainable development are being met. This Sustainability Statement shows that the proposed development meets a number of key policy objectives, responding to local needs and requirements and conforming to current good practice.

This Sustainability Statement highlights the features and areas where the development is meeting best practice in the field of sustainable development, in particular with regards to the key sustainability issues of: energy, transport, water, materials, waste and site management, pollution, ecology, and health and wellbeing.

CONTENTS

EXECUTIVE SUMMARY IV

1.0 INTRODUCTION 1

THE PROPOSED DEVELOPMENT 3

2.0 SUSTAINABLE DEVELOPMENT 4

WHAT IS IT? 4

KEY SUSTAINABILITY POLICY 6

Regional Planning Policy 7

Local Planning Policy 9

INTERGRATING SUSTAINABILITY INTO THE PROPOSED DESIGN 13

BUILDING SPECIFIC DRIVERS 13

Code for Sustainable Homes 13

The Home User Guide 16

Environmental & Sustainability Appraisal 16

3.0 KEY SUSTAINABILITY ISSUES 17

4.0 ENERGY 18

5.0	**TRANSPORT**	**21**
6.0	**WATER**	**23**
7.0	**MATERIALS**	**26**
8.0	**WASTE & SITE MANAGEMENT**	**28**
9.0	**POLLUTION**	**33**
10.0	**ECOLOGY & BIODIVERSITY**	**35**
11.0	**WELLBEING**	**38**
12.0	**SUMMARY**	**40**
13.0	**GLOSSARY & ABBREVIATIONS**	**42**
14.0	**REFERENCES**	**44**

1.0 INTRODUCTION

1.1 Environmental Perspectives LLP were commissioned by REP Maygrove Road Developments (the 'applicant') to prepare this Sustainability Statement for the proposed residential development at 65 Maygrove Road (the 'application site'), within the London Borough of Camden (LB Camden).

1.2 This report presents the outcome of the sustainability appraisal of the proposed development and details the approach that the applicant and the design team have collectively taken towards achieving a high standard of sustainable development and environmental performance. This Statement outlines the features that have been incorporated into the design proposals and the measures that will be implemented during the construction and operational phases, which aim to reduce the environmental impact of the scheme and contribute positively to sustainable development.

1.3 The purpose of the Sustainability Statement is to provide an independent verification that the design of the proposed development is in accordance with the sustainability objectives of relevant planning policy at all levels and is an example of good practice in sustainable design. This Statement reports the performance of the proposed development using local, regional and national level guidance on sustainability indicators from both government and industry.

1.4 The Statement includes:

- A brief description of the proposed development;
- A definition of sustainable development;
- A summary of the relevant international, national, regional and local sustainable development policy drivers; and
- An examination of the performance of the scheme in accordance with key sustainable policies at all levels, including the *London Plan*, the Mayor's *Sustainable Design and Construction Supplementary Planning Guidance* (SPG), and the policies contained within the LB Camden's *Local Development Framework Core Strategy* and *Development Policies* documents, as well as their Camden Planning Guidance on Sustainability.

1.5 A review of the proposed development's sustainability against set planning objectives and best practice identifies the opportunities and constraints of both the application site and the proposals. By undertaking the sustainability appraisal at an early stage in the design process, the potential to contribute positively to sustainable development is optimised. The Sustainability Statement, therefore, also provides a framework for the team to monitor the scheme's performance throughout its development.

THE PROPOSED DEVELOPMENT

1.6 The application site is located at 65 Maygrove Road within the LB Camden, and covers an area of approximately approximately 0.3 hectares (ha) and is located in Camden, centred on Ordnance Survey Reference 525042,184693.

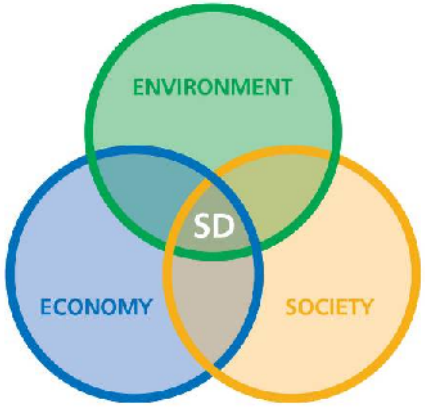
1.7 The application site is in an area of dense urban development surrounded by residential housing. There is a small area of amenity grassland to the north and east of the site with some areas of scattered woodland containing mature Sycamore and Cherry trees along the eastern and north eastern site borders and an area of Laurel with a ground covering of mulch.

1.8 The assessment site is dominated by buildings and hardstanding. There are ornamental shrub planters along the south of the site containing *Miscanthus* grass species and Privet hedge species. The site currently comprises a three storey office building and existing car park, which will be demolished for the construction of two interconnected buildings, comprised of 56 market and 12 affordable/intermediate units consisting of one to three bedroom flats and 4 bedroom houses. The proposed development will also incorporate soft landscaping, basement parking and provision of safe and secure cycle spaces.

2.0 SUSTAINABLE DEVELOPMENT

WHAT IS IT?

2.1 The past 20 years have seen a growing realisation that the current model of development is unsustainable. In other words, we are living beyond our means. From the loss of biodiversity due to the felling of rainforests or over-fishing, to the negative effect our consumption patterns are having on the environment and the climate; our way of life is placing an increasing burden on the planet.



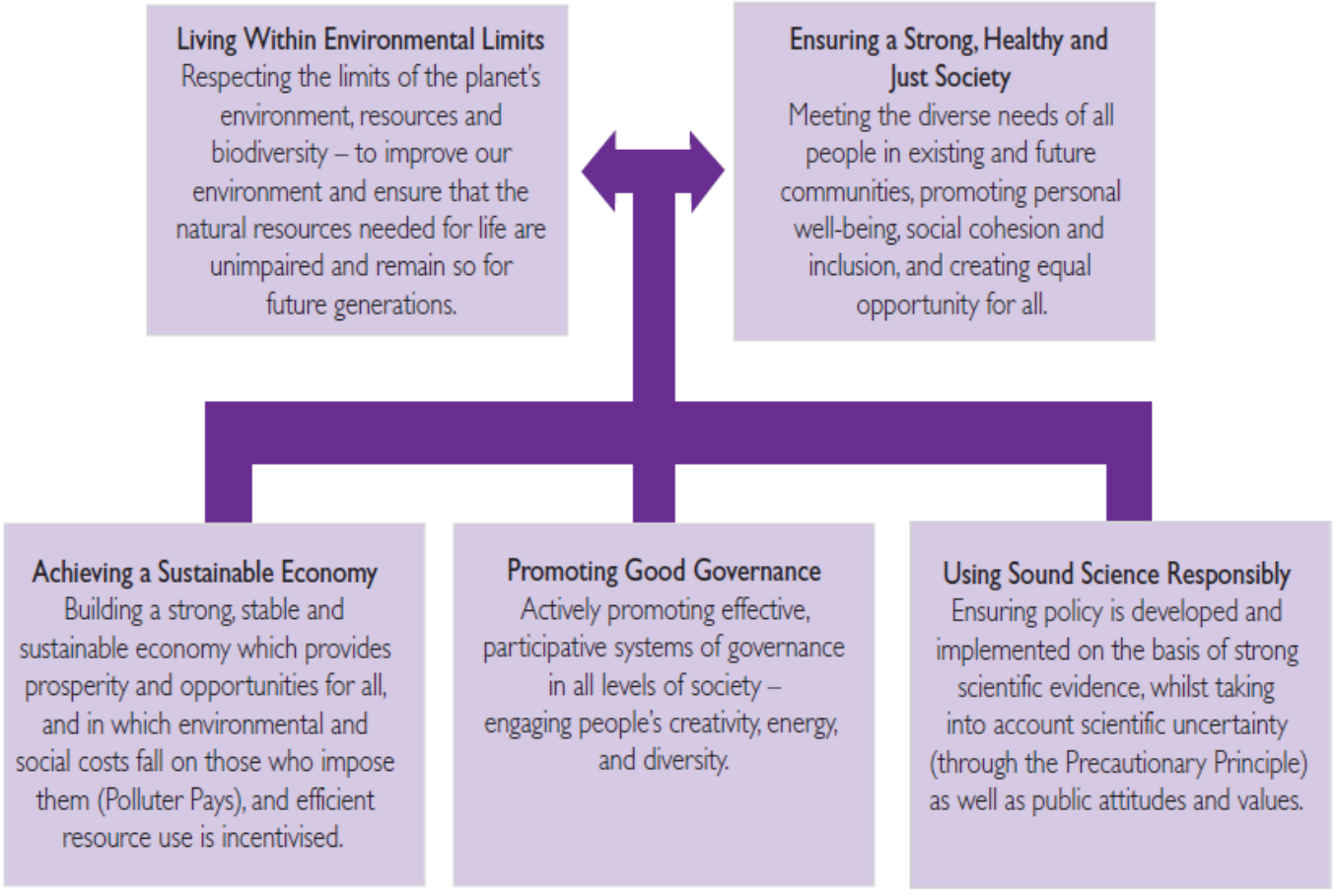
2.2 The goal of sustainable development, therefore, is to seek to simultaneously progress economic, social and environmental goals and policies in ways that develop and maintain a good quality of life for us all and enable future generations to do the same.

2.3 In the UK, the Government and Devolved Administrations have clearly set out what sustainable development means for them and the approach they will take to pursue their goal. They offer the following interpretation:

'Sustainable development is about positive growth-making economic, environmental and social progress for this and future generations.'[1]

2.4 To provide a clearer picture of what they mean in practice, such definitions are often underpinned by key principles that serve to guide policy-making and decisions. The UK Government has outlined a shared set of guiding principles for sustainable development in the UK Framework for Sustainable Development, One future - different paths[2] - they are the 'Five principles of sustainable development' (see Figure 2.1 below).

Figure 2.1 Five Principles of Sustainable Development



KEY SUSTAINABILITY POLICY

2.5 Strategies for sustainable development – broad, long-term plans of action aimed at achieving the goals of sustainable development, have been developed by national governments and a range of organisations throughout the world in order to set out a blueprint for action.

2.6 In 1994, the UK became the first country to publish such a strategy with *Sustainable Development, the UK Strategy*[3]. A revised strategy – *A Better Quality of Life*[4] – was published in 1999, with the most recent strategy being *Securing the Future*[1] published in 2005. The Government has since made commitments on a wide range of social, economic and environmental targets through its implementation of national planning policy, including:

- *Draft National Planning Policy Framework (DNPPF)*[1]*;*
- *Planning Policy Statement 1: Delivering Sustainable Development (PPS1)*[5]*;*
- *Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1*[6]*;*
- *PPS9: Biodiversity & Geological Conservation*[7]*;*
- *PPS10: Planning for Sustainable Waste Management*[8]*;*
- *Planning Policy Guidance 13: Transport (PPG13)*[9]*;*
- *PPS22: Renewable Energy*[10]*; and*
- *PPG24: Planning and Noise*[11]*.*

2.7 Strategies for sustainable development are not only used at the level of national government. They also provide strategic visions of sustainable development for:

- International organisations;
- Business;

- Individual government departments;
- Regions; and
- Local government.

2.8 The following sections describe key regional and local planning policy that seeks to drive sustainable development and that will be of most relevance to the proposed development.

Regional Planning Policy

Greater London Authority Policies

2.9 The Mayor of London has a vision for the city to become an exemplary sustainable world city. In achieving sustainable development, the Mayor has published a series of strategy documents setting out the policies for London:

- *The London Plan – Spatial Development Strategy*[12]*;*
- *Mayor's Energy Strategy*[13]*;*
- *Mayor's Air Quality Strategy*[14]*;*
- *Mayor's Biodiversity Strategy*[15]*;*
- *Mayor's Municipal Waste Management Strategy*[16]*;*
- *Mayor's Ambient Noise Strategy*[17]*; and*
- *Mayor's Sustainable Design and Construction SPG*[18]*.*

The London Plan

2.10 The *London Plan*[19] is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the city's development over the next 20-25 years. The document brings together geographical and locational aspects of the Mayor of London's other strategies, including those dealing with the following:

- Transport;
- Economic development;
- Housing;
- Culture;
- Social issues (health, inequality etc); and
- Environmental issues (climate change, air quality, noise).

2.11 On its formal publication, the replacement *London Plan* superseded the version published (consolidated with alterations since 2004) in March 2008. The policies within the *London Plan*[19] form part of the development plan for Greater London, and should be taken into account in all relevant planning decisions, such as determining planning applications.

2.12 With regard to Sustainable Development, Policy 5.3 relates to sustainable design and construction, which states the following:

Policy 5.3 Sustainable Design and Construction

'A – The highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime.

B - Development proposals should demonstrate that sustainable design standards are integral to the proposal, including its construction and operation, and ensure that they are considered at the beginning of the design process.

C - Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance and this should be demonstrated within a design and access statement. The standards include measures to achieve other policies in this Plan and the following sustainable design principles:

a minimising carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems)

b avoiding internal overheating and contributing to the urban heat island effect

c efficient use of natural resources (including water), including making the most of natural systems both within and around the buildings

d minimising pollution (including noise, air and urban run-off)

e minimising the generation of waste and maximising reuse or recycling

f avoiding impacts from natural hazards (including flooding).'

2.13 Moreover, Policy 5.1 states that '*the Mayor seeks to achieve overall reductions in London's carbon dioxide emissions of 60 per cent (below 1990 levels) by 2025*.'

Local Planning Policy

Camden Local Development Framework

2.14 Due to changes in government legislation, all local authorities have updated and replaced their Unitary Development Plans or Local Plsn with a new suite of documents called the Local Development Framework (LDF). Camden's LDF replaced the UDP in November 2010, and sets out their strategy for managing growth and development in the borough, including where new homes, jobs and infrastructure will be located.

2.15 Within the LDF, the Core Strategy and Development Policies documents have been identified as having particular relevance on how the sustainability objectives of the Council should be met in new developments, as outlined in the following policies:

Core Strategy Policy CS13 – Tackling climate change through promoting higher environmental standards

Reducing the effects of and adapting to climate change

The Council will require all development to take measures to minimise the effects of, and adapt to, climate change and encourage all development to meet the highest feasible environmental standards that are financially viable during construction and occupation by:

a) Ensuring patterns of land use that minimise the need to travel by car and help support local energy networks;

b) promoting the efficient use of land and building;

c) minimising carbon emissions from the redevelopment, construction and occupation of buildings by implementing, in order, all of the elements of the following energy hierarchy:

1. *Ensuring developments use less energy,*
2. *Making use of energy from efficient sources, such as the King's Cross, Gower Street, Bloomsbury and proposed Euston Road decentralised energy networks;*
3. *Generating renewable energy on-site; and*

d) Ensuring buildings and spaces rare designed to cope with, and minimise the effects of, climate change.

The Council will have regard to the cost of installing measures to tackle climate change as well as the cumulative future costs of delaying reduction in carbon dioxide emissions.

Local energy generation

The Council will promote local energy generation and networks by:

e) working with our partners and developers to implement local energy networks in the parts of Camden most likely to support them, i.e. in the vicinity of:

- *Housing estates with community heating or the potential for community heating and other uses with large heating loads;*
- *The growth areas of King's Cross; Euston; Tottenham Court Road, West Hampstead Interchange and Holborn;*
- *Schools to be redeveloped as part of Building Schools for the Future programme;*
- *existing or approved combined heat and power/local energy networks;*

and other locations where land ownerships would facilitate their implementation

f) protecting existing local energy networks where possible (e.g. at Gower Street and Bloomsbury) and safeguarding potential network routes (e.g. Euston Road);

Water and surface water flooding

We will make Camden a water efficient borough and minimise the potential for surface water flooding by:

g) Protecting our existing drinking water and foul water infrastructure, including Barrow Hill Reservoir, Hampstead Heath Reservoir, Highgate Reservoir and Kidderpore Reservoir;

h) Making sure development incorporates efficient water and foul water infrastructure;

i) Requiring development to avoid harm to the water environment, water quality or drainage systems and prevents or mitigates local surface water and down-stream flooding, especially in areas up-hill form, and in, areas known to be at risk from surface water flooding, such as South and West Hampstead, Gospel Oak and King's Cross.

Camden's carbon reduction measures

The Council will take a lead in tackling climate change by:

j) Taking measures to reduce its own carbon emissions;

k) Trialling new energy efficient technologies, where feasible; and

l) Raising awareness on mitigation and adaptation measures.'

Development Plan Policy DP22 – Promoting sustainable design and construction

'The Council will require development to incorporate sustainable design and construction measures. Schemes must:

a) demonstrate how sustainable development principles have been incorporated in the design and proposed implementation; and

b) incorporate green or brown roofs and green walls wherever suitable.

The Council will promote and measure sustainable design and construction by:

c) Expecting new build housing to meet Code for Sustainable Homes Level 3 by 2010 and Code level 4 by 2013 and encouraging Code Level 6 (zero carbon) by 2016;

d) Expecting developments (except new build) of 500 sq m of residential floorspace or above or 5 or more dwellings to achieve "very good" in EcoHomes assessment prior to 2013 and encouraging "excellent" from 2013;

e) Expecting non-domestic developments of 500 sqm of floorspace or above to achieve "very good" in BREEAM assessments and "excellent" from 2016 and encouraging zero carbon from 2019.

The Council will require development to be resilient to climate change by ensuring schemes including appropriate climate change adaption measures, such as:

f) Summer shading and planting;

g) Limiting run-off;

h) Reducing water consumption;

i) Reducing air pollution; and

j) Not locating vulnerable uses in basements in flood-prone areas.'

Camden Planning Guidance 3 - Sustainability

2.16 In addition to the adopted policy documents within the LDF, Camden have also provided a number of supplementary planning documents (SPDs), which provides information on how planning policies are applied in the Borough. The Camden Plannign Guidance documents in particular, suppor the policies within the LDF, and form an additional 'material consideration' in planning guidance. The Guidance covers a range of topics, including sustainability.

2.17 The Camden Planning Guidance on Sustainability provides information on ways to achieve carbon reductions and more sustainable developments. The document highlightes the Council's requirements and guidelines which support the relevant LDF policies identified above. A number of topics, including energy, water efficiency, sustainable use of materials, sustainability assessment tools, flooding, climate change adaption, biodiversity, urban food growing, and biodiversity (green/brown roofs/walls) are addressed within this document.

INTERGRATING SUSTAINABILITY INTO THE PROPOSED DESIGN

2.18 With respect to sustainable development at 65 Maygrove Road, a number of key policy objectives have been identified at national, regional and local level. This Sustainability Statement will therefore assess the performance of the proposed development against these key sustainability policies, including those from the *London Plan*, and the policies of the LB Camden's Core Strategy and Planning Guidance on Sustainability.

2.19 In addition, there are a number of other industry drivers that promote the delivery of sustainable built environments and these will also be considered for the proposed development in order to ensure that a holistic approach is taken towards design development, which considers all aspects of environmental and sustainability performance.

2.20 In addition, there are a number of other industry drivers that promote the delivery of sustainable built environments and these will also be considered for the proposed development in order to ensure that a holistic approach is taken towards design development, which considers all aspects of environmental and sustainability performance.

2.21 Those other sustainability standards that the proposed development will be looking to address during design development have been considered below.

BUILDING SPECIFIC DRIVERS

Code for Sustainable Homes

2.22 The *Code for Sustainable Homes*[20] (CSH) was introduced by the UK Government in April 2007 as a single national standard intended to facilitate a step change in the environmental performance of new housing.

2.23 The CSH aims to encourage and reward best practice through the recognition of improvements made to the design of residential buildings. It evaluates buildings against a number of environmental criteria captured under nine key environmental categories, including:

- **Energy** – rewards energy efficiency and renewable energy generation;

- **Water** – promotes water efficiency and water recycling;
- **Materials** – rewards the responsible sourcing of materials;
- **Surface water run-off** – encourages a reduction in surface water run-off from sites and management of flood risk;
- **Waste** – promotes best practice with regards to waste management including greater recycling of waste during construction, and the provision of facilities to enable household recycling throughout occupation;
- **Pollution** – promotes measures to reduce air and water pollution;
- **Health and wellbeing** – promotes a healthy and comfortable internal environment;
- **Management** – rewards good construction site practises, provision of information to building occupants to encourage environmental awareness and addresses home security; and
- **Ecology** – encourages ecological protection and enhancement.

2.24 The CSH has six rating levels, which are awarded on the basis of achieving both a set of mandatory minimum standards and a minimum overall score as set out in Table 2.1 below.

Table 2.1 Code for Sustainable Homes Level ratings

CSH Level		Total Points Score Required (equal to or greater than)
LEVEL 1	Equivalent to the Energy Saving Trust's (EST) Good Practice Standard for energy efficiency.	**36**
LEVEL 2		**48**
LEVEL 3	Equivalent to the EST's Best Practice Standard for energy efficiency.	**57**
LEVEL 4	Approximately equivalent to the PassivHaus/EST's Advanced Standard for energy efficiency.	**68**
LEVEL 5		**84**
LEVEL 6	Aspirational standard based on zero carbon emissions and high performance across all environmental categories.	**90**

CSH Performance

2.25 The design team for the proposed development at Maygrove Road is targeting a minimum CSH rating of Level 3, with an aspiration to achieve a CSH rating of Level 4. Pursuant to this, a CSH pre-assessment has been progressed and confirmed with relevant design team members in July 2011. The aim of this pre-assessment was to identify the opportunities and constraints of the application site and the proposals, and maximise the opportunities to enhance the environmental performance of the design.

2.26 During the pre-assessment, the likely credits that will contribute to achieving the target rating of Level 3, with an opportunity to achieve a Level 4 were identified.

2.27 The pre-assessment has provided a framework for a design that is likely to achieve a CSH points score of 69.32%, which equates to a Level 4 rating.

2.28 By committing to the achievement of these CSH ratings, the design team are ensuring that they have maximised the opportunities to enhance the environmental performance of the design and ultimately that the best practice sustainability standards demanded by the CSH will be implemented in practical terms within the proposed development.

The Home User Guide

2.29 Under the CSH assessment of the proposed development, future tenants of the residential space will be supplied with a non-technical Home User Guide, which will be designed to give information to the residents on the efficient operation and intended environmental performance of their dwellings.

2.30 Consequently, the Home User Guide represents an important tool by which the team, who design and deliver a sustainable development on the ground, can ensure the building is used in such a way as to maintain optimum environmental performance not only in design but also during long term operation.

2.31 The following environmental and sustainability appraisal will therefore include, where relevant, information to demonstrate how the operation of the building can be influenced via the Home User Guide to bring about lasting environmental and sustainability performance for the proposed development.

Environmental & Sustainability Appraisal

2.32 The sustainability features that will be implemented within the proposed development are discussed below and details on how the development will respond to both policy and industry objectives of sustainable design and construction are outlined for each key sustainability issue.

3.0 KEY SUSTAINABILITY ISSUES

ENERGY

TRANSPORT

WATER

POLLUTION

MATERIALS

ECOLOGY &
BIODIVERSITY

WASTE & SITE MANAGEMENT

WELLBEING

4.0 ENERGY

Sustainability Objective:

To address the causes of climate change by reducing emissions of greenhouse gases, in particular carbon dioxide (CO_2). To reduce the local and global impact of pollution on the environment, by improving the energy efficiency of properties and generating energy from low or zero carbon technologies.

Context

4.1 The energy that we use as part of our day-to-day functions and activities (including heat, electricity, light and kinetic energy) is generated primarily from two main sources: non-renewable sources (i.e. fossil fuels such as oil, gas and coal) and renewable sources (e.g. wind, solar, hydro, biofuel and ground). Unless generated from renewable sources, energy generation and consumption results not only in depletion of these non-renewable sources but also in the release of greenhouse gases such as carbon dioxide (CO_2), nitrogen oxides (NO_x), and airborne particulate matter from the combustion of these gases. These greenhouse gases contribute to climate change and other environmental effects that are considered to occur with increasing global temperature.

4.2 With increased pressure to meet growing energy demands and concerns over the impacts of greenhouse gases on climate change, governments around the world are putting in place commitments and targets to mitigate these impacts. In the UK, the Government has set targets of reducing overall CO_2 emissions by 80% by 2050 (compared with 1990 levels).

4.3 To help meet these targets, the focus is not only on expanding the use of renewable sources to generate energy but also on energy conservation and, specifically on ensuring the energy efficiency of UK buildings is dramatically improved. This last focus is unsurprising considering that buildings account, directly and indirectly, for 44% of the UK's carbon emissions. The Government has long signalled its intention to move to zero carbon buildings, starting with homes in 2016 and finishing with all other buildings by 2019.

4.4 Many developments within Greater London are now required to address the Mayor's *Energy Strategy*[13] *,* which sets planning policy standards for energy efficiency and the use of renewable technologies through the introduction of the Energy Hierarchy:

- **Be Lean** - reduce energy loads to a minimum through energy efficient heating and lighting systems, and efficient appliances;
- **Be Clean** - Cut transmission losses through local generation of energy (decentralised energy generation); and
- **Be Green** - Use combined heat and power (CHP) and community heating, and meet the demand with clean fuels, such as renewable technologies.

4.5 The *London Plan* also includes policies requiring major new developments within London to make the fullest contribution to the mitigation of, and adaptation to, climate change and to minimise carbon dioxide emissions:

- Policy 5.2 reinforces the requirement to apply to the Energy Hierarchy to new developments and requires an assessment of the energy demand and carbon dioxide emissions to accompany proposals for major development;
- Policy 5.6 requires major new developments to demonstrate their heating and cooling systems have been designed to minimise carbon dioxide emissions and to allow use of decentralised energy such as CHP systems.

4.6 Within Camden's Core Strategy and Development Plan Documents, Policy CS13 and DP22 specifically relates to energy. In particular, the policies emphasise the need for developments to develop their energy strategies in accordance with the Energy Hierarchy, to reduce overall carbon emissions.

Delivery

4.7 A stand-alone Energy Strategy has been produced for the proposed development, which has been developed by employing the Energy Hierarchy as set out in the London Plan[19] to help guide decisions about which energy measures are appropriate in particular circumstances.

4.8 Energy efficiency is key to the design development of the proposed buildings, and energy efficient measures will be incorporated throughout to ensure that the scheme meets the expectations of the Greater London Authority (GLA) and the Energy Hierarchy.

4.9 The preliminary strategy for the proposed development is summarised within the Energy Strategy as follows:

- All dwellings will be constructed will include energy efficiency measures to exceed 2010 Buildings Regulations standards and will include a number of passive design and energy efficient features;
- The development is unable to utilise more efficient forms of energy generation by incorporating a combined heat and power (CHP) engine within a site-wide communal heating system serving both the private and affordable units.

4.10 Sample SAP modelling and calculations indicates that the proposed units, and baseline calculations for the commercial elements will achieve a minimum 25% reduction in CO_2 emissions against the current Building Regulations (2010) or 15.6% when taking into consideration total site emissions, in order to exceed the energy performance requirements for the target CSH Level 3 rating, with the aspiration to achieve the CSH Level 4 mandatory energy standards.

4.11 In line with the requirements of the Energy Hierarchy, the proposed development will incorporate energy efficiency measures, which will reduce the base carbon dioxide emissions; these measures will be reviewed as the detailed building designs are progressed.

4.12 Of the low carbon and renewable technologies that can be practically applied at the development, a communal gas-fired CHP can provide the largest percentage of carbon dioxide savings that is both in line with the principles of the Energy Hierarchy and for the most attractive capital cost/carbon saving.

4.13 It is considered that the scheme has been designed in accordance with the principles set out within the Energy Hierarchy, and the team have maximised as far as possible the level of on-site low carbon and renewable energy generation that is technically feasible and commercially viable. As such, whilst it has not been technically feasible or financially viable to achieve the 20% reduction savings from on-site renewable technologies, by abiding by the principles of the Energy Hierarchy, it is considered that local, regional and national policy is being met through the proposed energy strategy.

4.14 Further details are provided in the stand-alone Energy Strategy produced for this application.

4.15 Other sustainability criteria being met by the proposals include:

- CSH – maximum number of energy credits targeted possible, including for provision of drying space, energy efficient white goods, energy efficient internal and external lighting, and inclusion of low or zero carbon technologies.

5.0 TRANSPORT

Sustainability Objective:

To reduce road congestion and pollution levels by enabling walking, cycling and use of public transport, and reducing the need for travel by private car.

Context

5.1 Transport currently accounts for a quarter of the UK's carbon emissions. In order to meet the UK's ambitious target of an overall 80% cut in emissions by 2050, extensive decarbonisation of the transport sector will be essential. Ninety percent of all transport emissions are generated from road transport and whilst a considerable proportion of road transport emissions will be addressed through technical developments in car engines and greater use of biofuels, a significant move to greener consumer behaviour is also required.

5.2 Walking, cycling, and public transport, including buses and rail, are all alternative green travel options. Persuading and enabling people to use these alternative forms of transport is key in tackling the UK's transport issues; intrinsic to this is ensuring that new developments and key services are accessible.

5.3 Transport is considered a the key sustainability issue within the Camden LDF. Policy DP16 seeks to ensure that development is '*propery integrated within the transport network and is supported by adequate walking, cycling and public transport links.*' These include the promotion and use of green travel plans supported by transport assessments, to assess the impact of vehicle movements associated with the development. In addition, Policy DP17 seeks promote *'walking, cycling and public transport use. Developmetns should make suitable provision for pedestrians, cyclists and public transport…'*

Delivery

5.4 The application site at Maygrove Road benefits from its close proximity to a number orf public transport nodes, including Kilburn Underground Station at the end of Maygrove Road to the west, West Hampstead station (Underground, Rail and Thameslink) stations to the east along the B510. In addition, in an effort to meet the Council's requirements for the provision of cycling facilities the proposed development will incorporate safe and secure cycle spaces in line with the targeted credits under the CSH, which will also help to minimise dependence on private car use.

5.5 Within the transport section of the Home User Guide, alternatives to private car use and the personal benefits of changing travel behaviour through raising awareness of the choices available to individuals will be highlighted. In this way, the Home User Guide will make a positive contribution to reducing car usage and increasing the use of other, more environmentally-friendly modes of transport.

5.6 Delivery of the above will mean that the proposed development is compliant with the following sustainability criteria:

- Mayor's *Sustainable Design and Construction SPG* – facilities for bicycles have been designed in; and
- CSH – Meeting the CSH for cyclist facilities to all dwellings.

6.0 WATER

Sustainability Objective:

To conserve water by promoting water efficiency, water recycling and Sustainable Drainage Systems (SuDS).

Context

6.1 The average person in England uses 150 litres of water a day and research has shown that the average family's annual water consumption results in as much CO_2 as two transatlantic flights (1.54 tonnes of carbon each year). Yet water is becoming an increasingly scarce resource, with only 3% of the world's water being held as fresh water and less than 0.3% of this being available to humans. As more houses are built and the population increases, the pressures on the UK's water resources are growing. Climate change will only add to these pressures. To ensure a sustainable water supply for the future, it is therefore vital that water is used more efficiently and methods of harnessing and reusing water are developed and implemented. Pursuant to this, DEFRA's Future Water[21] strategy sets out a number of objectives for more sustainable water use and management of particular relevance is the target to '*reduce per capita consumption of water through cost effective measures, to an average of 130 litres per person per day by 2030*'. This equates to a 20% decrease compared to the current average.

6.2 Furthermore, just as climate change seems likely to mean less water on average, it is also likely to mean more extreme weather events; therefore the issue of 'surface water' flooding is becoming increasingly important. Many existing urban drainage systems can cause problems of flooding, pollution or damage to the environment and are not proving to be sustainable. Use of SuDS is a cost effective solution to harnessing and reusing water with a low environmental impact, which can easily be incorporated into developments; SuDS drain away surface water run-off through collection, storage and cleaning before allowing it to be released slowing back into the environment.

6.3 The conservation and sustainable management of the Borough's water resources is identified within Camden's Development Plan Policies Document, particularly Policy DP23, which states that '*the Council will require developments to reduce their water consumption*.' Measures

identified within the policy include incorporation of water efficient features (including the re-use of surface water and grey water), limiting the amount and rate of run-off and waste water entering, and encouraging the provision of attractive and efficient water features.

Delivery

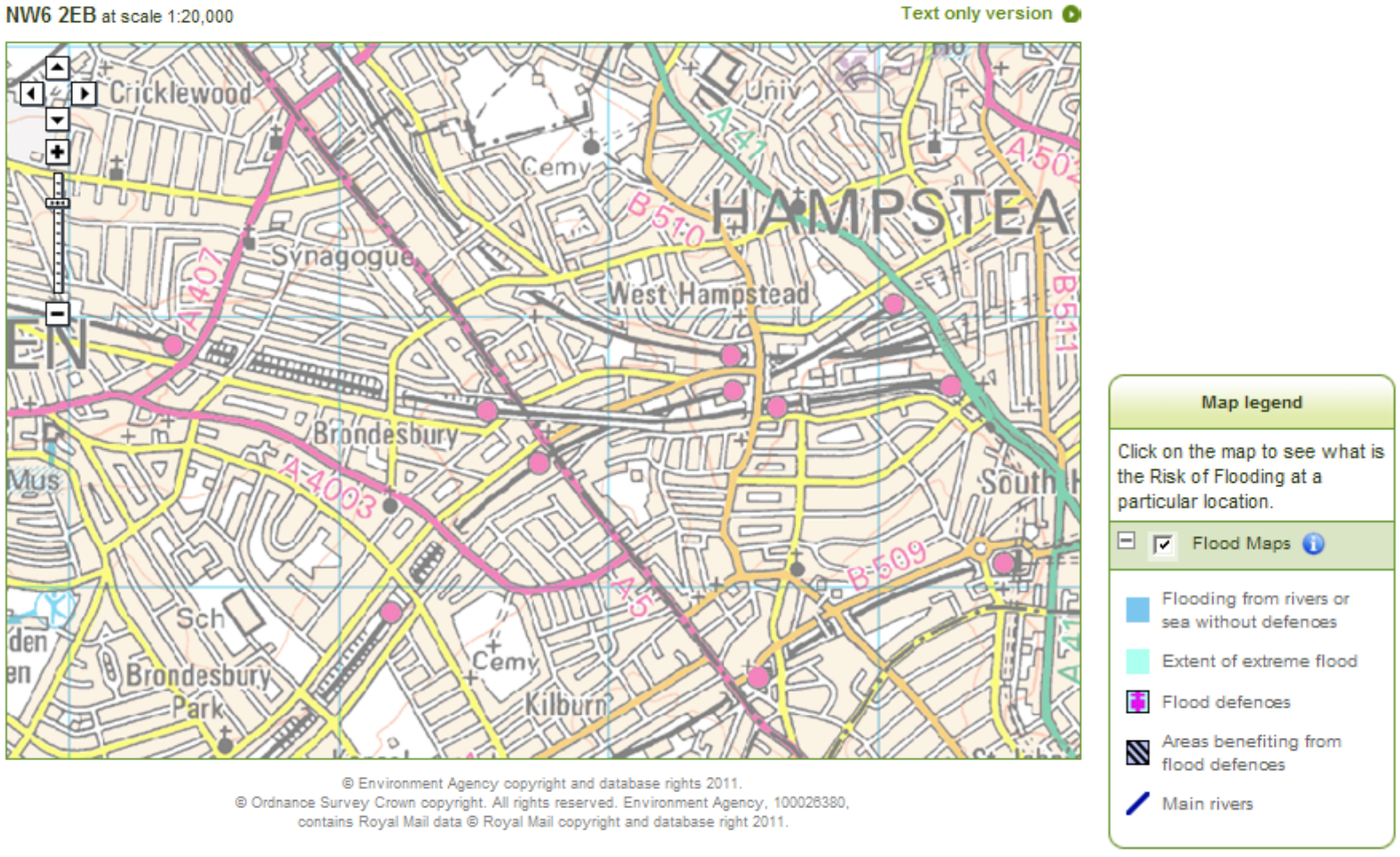
6.4 The proposed development will aim to develop a water strategy that reduces water demand through its design and specification. Consideration will be given to the relevant policies throughout the design, and the possibility of incorporating water efficient appliances will be assessed.

6.5 In accordance with the mandatory requirements of the CSH level that has been committed to, the design team will ensure that each dwelling limits its water consumption to 105 litres per person, per day. Water efficient sanitary fittings will be specified in each dwelling to conserve water at its point of use. For example the following water efficiency measures could be expected for incorporation within a typical dwelling:

- 4/2.6 litre dual flush WCs;
- Taps with low flow regulators (e.g. timed turn off, electronic, spray or aerated);
- Showers with a nominal flow rate of 6 litres per minute (at 1.5 bar pressure);
- Small size bath; and
- Water efficient washing machines and dishwashers.

6.6 Areas at greater risk of flooding are those near natural flood plains, particularly where the flood plain has been built on. Areas at risk of flooding from fluvial or tidal flood events are highlighted on the Environment Agency (EA) flood maps. The proposed development is located in an area considered to be at low risk of flooding according to the EA, taking into account the affect of flood defences in the area. In addition a Flood Risk Assessment will be carried out to further understand the risks associated with the proposed development.

Figure 6.1 Environment Agency Flood Risk Map



6.7 The above water strategy will ensure that the proposed development complies with the following sustainability criteria:

- CSH – requirements met for water consumption and flood risk.

7.0 MATERIALS

Sustainability Objective:

To reduce the global, social and environmental impact of the consumption of resources by using sustainably produced and local products.

Context

7.1 The embodied energy of a building material can be taken as the total primary energy consumed (the amount of carbon released over its life cycle). Building materials have a vast environmental impact in terms of energy and resources in their production, use and disposal. Therefore, if environmentally responsive building materials are chosen, a significant amount of CO_2 can be saved during construction as well as during operation.

7.2 Consideration should also be given to materials' performance under potentially changing climatic conditions over the lifetime of the buildings by ensuring that the final selection facilitates the proposed development's ability to maintain comfortable temperatures. For example, the use of a high thermal mass in the design of the buildings will help keep buildings cool during warm periods, and vice versa.

7.3 The Camden's Core Strategy and Development Plan Policies Document, the policies refers to the need for new buildings to be energy and resource efficient with waste being more suitably managed. This also includes minimising the impacts of transporting materials, by ensuring where practicable, materials are locally sourced (Policy DP20).

Delivery

7.4 The design team for Maygrove Road plan to meet and exceed principles set out in within the relevant chapters of the Local and regional planning policy. Wherever possible, the materials specification and products used for the proposed development will have the following characteristics considered by the design team:

- Low embodied energy that requires little processing;
- High recycled content, where possible;
- Durable;
- Accredited to a recognised environmental standard such as:
    - Forestry Stewardship Council (FSC);
    - Environmental Management System (EMS) certification;
    - EU energy ratings of white goods; and
    - The Mobius Loop for products containing recycled materials.

7.5 In addition, the team will look to specify materials with a low environmental impact wherever possible through use of the Green Guide to Materials Specification22, which takes into account the full life cycle of the materials.

7.6 The team have committed to achieving all the essential standards required by the Mayor's SPG. In addition the following sustainability criteria will be met:

- CSH – credits targeted for materials specification and responsible sourcing of materials.

8.0 WASTE & SITE MANAGEMENT

Sustainability Objective:

To reduce waste generation and disposal through the facilitation of recycling and to use sustainable methods of construction.

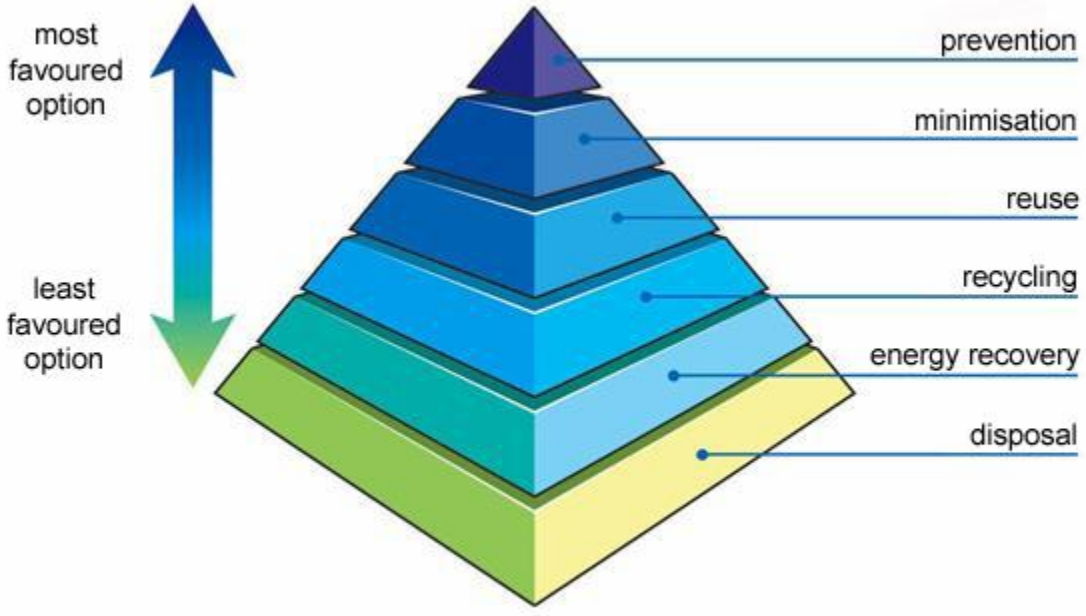
Context

8.1 All building activity is environmentally damaging. The key to sustainable design and construction is to minimise the impact the building has on the environment. Good construction site practices are essential to minimise potential impacts during this phase, such as noise and dust nuisances. Effective site waste management must also be implemented.

8.2 The UK faces major challenges to sustainable waste management - each year, it is estimated that we generate about 100 million tonnes of waste from households, commerce and industry. About 30% of solid waste produced in the UK is construction waste, and 96% of all waste produced goes direct to landfill, creating risks of contamination from leaching of toxic materials and missing the opportunity to recover latent embodied energy and valuable materials for recycling.

8.3 The minimisation of waste and the increased use of recycled materials therefore form an intrinsic key to resource protection. *PPS10*[8] includes the Waste Hierarchy, which is a framework for sustainable waste management setting out the preferential treatment of waste, as Figure 8.1 shows.

Figure 8.1 The Waste Hierarchy



8.4 Policy CS18 of Camden's Core Strategy seeks to promote sustainable waste management, including setting targets to reduce the amount of waste produced in the borough and increase recycling and re-use of materials to achieve 40% of household waste by 2010, and 45% by 2015. In addition, the Policy states that development should 'include facilities for the storage and collection of waste and recycling.'

Delivery

Waste Management- Construction Phase

8.5 The design for the proposed development has addressed, and will continue to take into considerations, measures to prevent and minimise waste while also delivering a scheme that is cost effective to build, maintain and occupy.

8.6 The design team will aim to 'design out' waste through the consideration of construction techniques, the use of prefabricated elements, and the selection of standard component sizes, in order to prevent and minimise waste generation, and make the construction stage more time efficient and cost effective.

8.7 The team is committed to adhering to all relevant waste legislation and implementing best practice with regards to waste management including the following guidance:

- Department for Business, Innovation and Skills' (BIS) (Formerly the Department for Business, Enterprise and Regulatory Reform (BERR), formerly the Department for Trade and Industry (DTI)) *Site Waste Management Plans: Guidance for Construction Contractors and Clients Voluntary Code of Practice*[23];
- BIS' (Formerly BERR, DTI) *Sustainable Construction Brief 2*[24] - identifies waste minimisation and good construction practises as key to sustainable construction. Also identifies other good practice guidance and drivers for sustainability;
- The *Institute of Civil Engineering (ICE) Demolition Protocol*[25];
- *British Standard 5906: 2005 Waste Management in Buildings - Code of Practice*[26]; and
- The Government's *Strategy for Sustainable Construction*[27], which includes a number of milestone targets addressing procurement, design, innovation, people skills, health and safety, climate change, natural resource protection, and sustainable consumption and production.

8.8 A Project Environmental Management Plan will be prepared by the contractor to indicate the general management arrangements that should be adopted to control potentially significant impacts during construction, including those relating to waste management. Specific

requirements for waste minimisation at individual package/building level will then be set out in the form of a Site Waste Management Plan (SWMP), which will apply the principles of the Waste Hierarchy.

8.9 The SWMP will be produced to ensure procedures and commitments are put in place for the following:

- Monitoring of waste generated on-site;
- Setting of targets for minimising the amount of waste generated on-site; and
- Sorting, reuse and recycling of construction waste, either on-site or off-site through a licensed external contractor.

8.10 The principal contractor will be responsible for implementing the SWMP and priority will be given to the re-use of waste on-site or to ensure materials taken off-site are re-used elsewhere or recycled.

Waste Management – Operational Phase

8.11 Sustainable waste management will reduce the production of waste arising from the operation of the building to a minimum. In accordance with good practice guidance, the scheme will ensure that the building has appropriate space allocated for waste storage and containers to hold at least the minimum waste storage volume recommended by British Standard BS: 590647.

8.12 In order to ensure that residents of the proposed development maximise the opportunities provided for recycling, the applicant has committed to providing internal recycling bins within each dwelling for recyclable waste (separate to any bin provided for other non-recyclable waste), as well as composting facilities in line with the CSH requirements. Details of the recycling facilities available for residents and how they are operated will be provided to residents within the Home User Guide to ensure that sustainable waste management objectives are delivered during the operation of the proposed development.

8.13 As such, provision will also be made for both internal and external storage of recyclable waste for the proposed dwellings in order to encourage minimisation of waste in accordance with the principles of the Waste Hierarchy and LB Camden's requirements.

Site Management

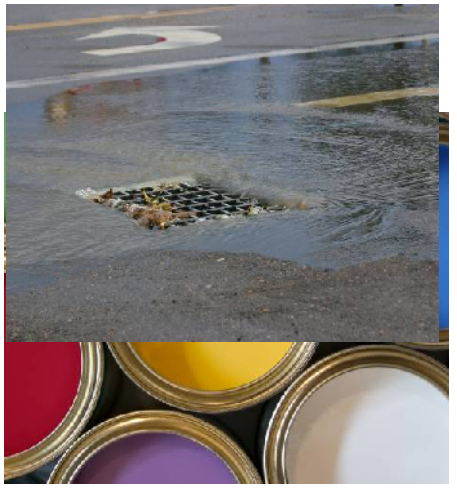
8.14 In accordance with the standards set by CSH, best construction practices and methods including compliance with the EA *Pollution Prevention Guidelines*[28], will be applied in executing the construction works so as to avoid or reduce impacts associated with waste, poor air and water quality, as well as noise and vibration, as far as possible. These practices and methods will be a contractual requirement. In addition, the team have committed to achieving a best practice score (a minimum of 32) under the Considerate Constructors Scheme (CCS), which ensures the considered management of construction sites and good waste management practices.

8.15 The site management team will be committed to managing the construction site in an environmentally sound manner in terms of resource use, energy consumption, waste management and pollution. A number of mitigation methods should therefore be implemented on-site during the construction phase as appropriate, including:

- Vehicles carrying loose aggregate and workings should be sheeted at all times;
- Any completed earthworks should be covered or vegetated as soon as is practicable;
- Regular inspection and, if necessary, cleaning of local highways and site boundaries to check for dust deposits;
- Minimise surface areas of stockpiles (subject to health and safety and visual constraints regarding slope gradients and visual intrusion) to reduce area of surfaces exposed to wind pick-up;
- Use of dust-suppressed tools for all operations;
- Ensuring that all construction plant and equipment is maintained in good working order and not left running when not in use;
- Restrict on-site movements to well within the application site and not near the perimeter, if possible;
- Use of water sprays for dampening surfaces/haul roads if necessary; and
- No unauthorised burning of any material anywhere on the application site.

8.16 Delivery of the above site and waste management measures will ensure that the proposed development works at the application site comply with the targeted CSH credits for storage of recyclable waste and construction site waste management.

9.0 POLLUTION



Sustainability Objective:

To reduce inequalities in the health of the population by improving air quality, and preventing noise and light pollution.

Context

9.1 There are many forms of environmental pollution arising from building operation, including noise, odours, light, and vibration. A significant proportion of pollution is airborne and is the direct result of: fumes, combustion of materials, chemicals used in industrial processes, or polluted air from ventilation systems and air conditioning plants. Some pollutants can also escape to soil and groundwater courses. Internal noise and disturbance to neighbours are also important considerations; and light spill from external lighting can sometimes be an annoyance and aggravation to neighbours.

9.2 To reduce the depletion of the earth's ozone layer CFCs are banned under the international *Montreal Protocol*[29] and HCFCs are being phased out. However, these have often been replaced with HFCs, which have an Ozone Depletion Potential (ODP) of zero but have a high potential to contribute to global warming and the green house gas effect. The measure of a substance's Global Warming Potential (GWP) is relative to 1 unit of CO_2. Some Halons and HFCs have a GWP in excess of 4,000.

9.3 Many substances used in the built environmental also contain Volatile Organic Compounds (VOCs). Methane VOCs contain greenhouse gases that contribute towards climate change and non-methane VOCs also have an environmental impact principally related to the formation of ground level ozone or 'smog' that can lead to respiratory problems. In addition, some aromatic compounds (non-methane VOCs) are toxic to human health, considered carcinogens, and thought to be associated with 'sick building syndrome'[30].

Delivery

9.4 During the construction phase, best practice measures will be undertaken to ensure that the potential for air, noise and vibration, and water pollution will be effectively managed and controlled in line with the CSH requirements, as outlined above. In addition, there will be a

requirement for the contractor to achieve a best practice score under the Considerate Constructors Scheme relating to the prevention of pollution on-site.

9.5 Further measures have also been committed to in order to ensure that any potential form of pollution associated with the proposed development will be mitigated, including minimising the environmental impacts associated with the release of building related air pollutants; all insulation used within the development will have an ODP of zero and GWP of less than 5.

9.6 Furthermore, there is a commitment from the team to incorporate best practice measures relating to reducing night time light pollution will also be followed to ensure that external lighting is concentrated in appropriate areas and that upward lighting is minimised, reducing unnecessary light pollution, energy consumption, nuisance to neighbouring properties, and disturbance to local wildlife.

9.7 The above measures will ensure that the proposed development complies with the following sustainability criteria:

- *Sustainable Design and Construction SPG* – measures will be taken to reduce air and noise pollution; and
- CSH – credits targeted for low VOCs, minimising watercourse pollution, and maximising sound insulation.

10.0 ECOLOGY & BIODIVERSITY

Sustainability Objective:

To conserve and enhance the biodiversity of the region by conserving and enhancing areas valued for their diversity of wildlife, habitats, and landscape value.

Context

10.1 Biodiversity is the variability among living organisms within an ecosystem; a highly diverse ecosystem is an indicator of a healthy and thriving natural environment. Since we rely so heavily upon the natural environment it is in our best interest, and in the interest of future generations, to protect and enhance the biodiversity that surrounds us.

10.2 The UK has seen a dramatic loss in biodiversity and ecosystem integrity especially through the latter half of the twentieth century, therefore, the protection and enhancement of biodiversity is a key component throughout the development process.

10.3 Species are currently becoming extinct at a faster rate than any other time in the history of the earth; at present, approximately 16,000 species are threatened with extinction. There are several methods of incorporating biodiversity enhancing techniques into new developments which can be tailored to certain protected species that are likely to be present.

10.4 Policy CS15 within Camden's Core Strategy seesk to encourage biodiveristy, which includes '*the provision of new or enhanced habitat, where possible, including biodiverse green or brown roofs and green walls.'* The enhancement of biodiversity and ecology within developments is also well-supported within the Council's Planning Guidance on Sustainability.

Delivery

10.5 A site survey was carried out on the 14th July 2011 in order to establish the ecological value of the site and its potential to support notable and/or legally protected species. Information from the survey was used to identify credits that are likely to be awarded, where possible, for the Code for Sustainable Homes Ecology Category. Along with a review of readily available ecological information and other relevant environmental databases an assessment of the sites ecological value was made.

10.6 Within the assessment site there are areas of building, hardstanding and introduced shrub; as such ecological habitat variety is limited. There is a low potential for nesting birds in areas of scattered scrub and scattered trees bordering the site. Due to the potential any clearance/demolition works of vegetation should be undertaken outside of the breeding season for birds (generally the months of March – September inclusive, although birds can and do nest earlier and later than this).

10.7 The application site's potential for protected species was assessed as part of the survey, the results of which are summarised below:

- Has negligible potential to provide habitat for roosting bats;
- Has negligible potential to provide habitat for foraging bats;
- Has negligible potential to provide habitat for reptiles;
- Has negligible potential to provide habitat for dormice;
- Has negligible potential to provide habitat for dormice;
- Has negligible potential to provide habitat for otters;
- Has low potential to provide habitat for invertebrates; and
- Has low potential for nesting birds.

10.8 In addition, as part of the overall landscaping strategy, a number of ecological and biodiversity enhancement measures will be incorporated within the proposed development. The suitably qualified ecologist will make a series of recommendations that will enable the proposed development to enhance the ecological value of the site; potential recommendations likely to be incorporated within the proposed development to achieve the targeted CSH credits are:

- Provision of bird and/or bat nest boxes;
- Use of planting that encourages wildlife, particularly fruit bearing shrubs and trees; and
- Incorporation of extensive 'living roofs' across the development, comprising substrate material, laid down on a flat roof and allowed to colonise naturally.

10.9 Incorporation of the enhancement recommendations, such as those identified above will enable the proposed development of 65 Maygrove Road Road to bring about a positive change in the ecological value of the site, thus providing biodiversity benefits to the local area. The ecological strategy meets and has been designed in accordance with the CSH ecology criteria to ensure the maximum possible number of credits have been targeted by the team under the Ecology categories.

11.0 WELLBEING

Sustainability Objective:

To create and sustain vibrant communities, addressing a deficiency in the provision of services to the local community and recognising the needs of everyone.

Context

11.1 Well-being differentiates itself from considerations such as standard of living by not focussing solely on economic factors; rather, it is closer in definition to quality-of-life and so takes a more holistic approach. As such, promoting well-being focuses on enabling communities and individuals to live healthy, happy lives. This includes ensuring that individuals have good access to housing, health care, education, open space and employment opportunities but also that individuals' pursuit of these is not at the detriment of the wider communities' well-being. In this sense, well-being embodies true sustainability in all its three facets: environmental, economic, and social.

11.2 The need to consider development in context of surrounding uses is recognised within the Council's Development Plan Policies. Policy DP26 seeks to mange the impact of development on occupiers and neighbours by seeking to *'protect the qulaity of life of occupiers and neighbours by only granting permission for developmetn that does not cause harm to amenity*.' Factors that will be considered include *'visual privacy and overlooking; overshadowing and outlook; sunlight, daylight and artificial light levels; noise and vibration levels; odour fumes and dust; microcilamte; and the inclusion of appropriate attenuation measures.'*

Delivery

11.3 The proposed development will provide optimum use of a previously developed site with a development density that has been fully maximised based on local context and design principles. The application site's location within LB Camden is ideal to support residential uses

with excellent provision of local transport, retail, and community facilities; therefore, the proposed development is considered to be consistent with the local area.

11.4 The proposed residential development will provide a mix of different dwelling types (1, 2 and 3 bed appartments, and 4bed houses) comprised of both market and affordable/intermediate housing, which will help to meet the identified need for an area suffering from housing shortage. The tenure and mix of the proposed dwellings will also complement the housing requirements of the Borough by providing both market and affordable units, thus ensuring the housing needs of those on lower incomes are catered for.

11.5 The proposed scheme has been designed in order to maximise the wellbeing benefits to occupants, without detriment to the surrounding buildings and users. As part of the development, private amenity spaces will be provided to create a series of spaces for all residents to enjoy.

11.6 The proposed development will also take into account the principles of Secured by Design[31]; where possible measures will be introduced to assist in reducing the opportunity for crime and fear of crime to create a safer and more secure environment for the residents and the local community. The applicant has also committed to designing all dwellings to comply with the *Lifetime Homes*[32] standard, which will ensure that each home within the proposed development is accessible to everybody and the layout can be easily adapted to fit the needs of future occupants.

11.7 The proposed development is therefore in a form which integrates with the existing built environment within this area of the Borough, and contributes towards demand for additional housing. The scheme aims to promote a healthy and comfortable internal environment for its occupants.

11.8 The socio-economic ,health, and wellbeing benefits of the proposed development accord with a number of best practice sustainability criteria, including:

- CSH – the majority of health and wellbeing credits have been targeted by the team; and
- Secured by Design – the team are committed to achieving the principles of Secured by Design following consultation with the Architectural Liaison Officer at Camden Council.

12.0 SUMMARY

12.1 Both the Mayor of London and the LB Camden are committed to achieving the sustainable development of the Borough whilst having regard to the future of London as a whole. As a result, the planning policies and development standards set for this area emphasise the importance of ensuring social progress and equality of opportunity; protection of the built and natural environment; the prudent use of natural resources; and the maintenance of high and stable levels of economic growth.

12.2 It is therefore imperative that the proposed development at Maygrove Road contributes to local sustainability aims as well as meeting regional and national objectives for sustainable development.

12.3 This sustainability statement shows that the proposals are meeting a number of key policy objectives, responding to local needs and requirements and conforming to best practice sustainability criteria applicable to this development.

12.4 The proposed development seeks to optimise the use of land, by developing a previously used brownfield site, which will contribute to the regeneration of the Borough.

12.5 In order to meet the expectations of the Borough's policy on energy, consideration will be given to measures such as passive design features using the building fabric. This could help to reduce the energy consumption and associated carbon dioxide emissions from the development.

12.6 To reduce pollution associated with increased private car use – such as CO_2, NO_x particulates emissions, noise, and congestion – the excellent local public transport opportunities will be highlighted to all building users. Nearby London underground and bus services provide easily accessible routes from the application site into all areas of London and other destinations. Although the development will include car parking provision, it will also incorporate cycle storage facilities to help encourage alternative forms of transport and limit dependency on private car use.

12.7 The proposed development will aim to address waste minimisation at the early design stage to reduce waste arising during both the construction and operational phases. Consideration will be given to relevant policy relating to waste segregation and recycling aims of the Borough.

12.8 Potential forms of pollution arising from the construction of the proposed development will aim to be prevented through the use of sustainable construction methods and good site practices. In addition, where possible during construction materials will be selected for their minimal environmental impacts.

12.9 In an effort to meet the Boroughs aims to reduce water consumption, the design of the building will take into account the incorporation of water efficient appliances. Green roofs will also be specified, which will result in a beneficial impact to the control and management of surface water run-off.

12.10 The ecological impact of the development has been considered – due to the re-use of a previously developed site within an urban area, the existing condition is considered to be of low ecological value and soft landscaping areas brought forward as part of the proposals will help to enhance the overall biodiversity of the site.

12.11 Finally, the residential nature of the proposed development will integrate well with existing development within the West Hampstead area, will contribute towards the demand for additional housing, and through good design, will help to promote a healthy and comfortable internal environment for its residents.

12.12 In summary, the sustainability assessment has informed the design process by identifying opportunities and constraints for sustainable development, and the appraisal process has considerably strengthened the proposals in terms of their sustainability performance.

13.0 GLOSSARY & ABBREVIATIONS

BRE	Building Research Establishment
DCLG	Department for Communities and Local Government
DEFRA	Department for Environment, Food and Rural Affairs.
DfT	Department for Transport
EA	Environment Agency
FSC	Forestry Stewardship Council
GEA	Gross External Area
HSE	The Health and Safety Executive
LDF	Local Development Framework
NO_2	Nitrogen dioxide.
NOx	Nitrogen oxides.
PM_{10}	Particulate matter with an aerodynamic diameter of less than 10 micrometres.
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
SPD	Supplementary Planning Document
SPG	Supplementary Planning Guidance
Surface Run-Off	Surface run-off occurs when rainfall exceeds a soil's maximum saturation level and all surface depressional storage is filled to capacity.

– END –

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